

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of:

Amendment of the Commission's
Rules to Establish Rules and
Policies Pertaining to a Mobile
Satellite Service in the
1610-1626.5/2483.5-2500 MHz
Frequency Bands.

CC Docket No. 92-166

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CONSOLIDATED REPLY COMMENTS

Pursuant to Section 1.429(g) of the Commission's Rules, Motorola Satellite Communications, Inc. ("Motorola") hereby submits its consolidated reply comments to the comments and oppositions filed in response to its Petition for Clarification and Partial Reconsideration of the Commission's Report and Order in this proceeding. See Report and Order, 59 Fed. Reg. 53,294 (Oct. 21, 1994). The comments and oppositions submitted in response to Motorola's Petition, for the most part, provide further support for the few revisions and clarifications Motorola has requested to the policies and rules set forth in the Report and Order.

I. **THERE IS NO NEED FOR AN INTERIM SPECTRUM SHARING PLAN TO PROTECT GLONASS RECEIVERS IN THE UNITED STATES**

In their comments, both Motorola and Loral/QUALCOMM Partnership, L.P. ("LQP") reiterate the view that an interim spectrum sharing plan is not necessary to protect GLONASS receivers from potential MSS interference. First, as the Commission itself has recognized, the FAA does not have any definitive plans to utilize GLONASS for precision-approach communications in conjunction with the Global Positioning System ("GPS"). See Report and Order at ¶ 49 n.57 (stating that the FAA

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is investigating possible use of GLONASS). If the FAA does not incorporate GLONASS into the Federal Radionavigation Plan for precision landings, the need to protect GLONASS from MSS transmissions in the U.S. disappears.^{1/} At a minimum, the Commission should defer the implementation of any interim plan until the FAA agrees to utilize GLONASS for such purposes.

Second, as LQP notes and Constellation agrees, the Russian Federation has already committed itself to moving the frequencies of GLONASS to below 1606 MHz by 1999, thereby eliminating the potential for interference with MSS transmissions operating as low as 1610 MHz. See LQP Consolidated Opposition and Comments at 20 (Dec. 20, 1994) (citing ITU Document 43-E, 16 November 1993, submitted to WRC-93 Plenary Meeting); Constellation Opposition and Comments at 16. In LQP's words, "the Commission should not plan to protect operations that may never require protection." LQP Consolidated Opposition and Comments at 20. Third, an interim band plan is not required in order for the Commission to effectuate the United States' coordination obligations with the Russian Federation, since the United States has agreed to coordinate only GLONASS's final carrier frequencies. Any possible protection of GLONASS receivers prior to the implementation of this final carrier frequency plan can be accommodated without an overly restrictive MSS band plan by, for example, establishing appropriate out-of-band emissions criteria. Fourth, as LQP correctly notes, an interim accommodation with GLONASS would send the wrong political message to the Russian

^{1/} Constellation Communications, Inc. ("Constellation") supports this view in its comments. See Constellation Opposition and Comments at 16 (Dec. 20, 1994).

Administration, encouraging it to continue using channels above 1606 MHz and to delay the implementation of the final GLONASS carrier frequency plan. See LQP Consolidated Opposition and Comments at 20.

LQP is not the only CDMA applicant that agrees with the premises of Motorola's position on this subject. Even Constellation, while purportedly an advocate of the Commission's interim plan, agrees that "Glonass operations are not now entitled to protection because the Federal Aviation Administration is not planning to use Glonass. . . ." Constellation Opposition and Comments at 16 (footnote omitted). Constellation further states that an emissions mask would eliminate the need for an interim plan. See id. While Constellation argues that an interim MSS band plan is necessary until such time as an out-of-band emissions mask becomes available, such a mask has been proposed and could be implemented by each of the MSS system licensees without undue economic penalties. In fact, Motorola has demonstrated that its proposed mask would be sufficient to insulate GLONASS receivers from harmful interference. See Reply Comments of Motorola Satellite Communications, Inc. at Appendix 1, Table I (June 20, 1994).

Nor can Constellation seriously dispute that the Commission's interim plan inequitably places most of the burden of protecting GLONASS receivers in the United States on the one FDMA/TDMA system.^{2/} Under the Commission's plan, the loss of 2

^{2/} In this regard, Motorola agrees with LQP that, in the unlikely event that spectrum becomes unavailable as a requirement to protect GLONASS receivers in the United States, the impairment should be equitably shared among all of the CDMA and FDMA/TDMA systems. See LQP Consolidated Opposition and Comments at 20 n.7. TRW apparently shares this view as well. See TRW Consolidated Opposition and Comments at 15 (Dec. 20, 1994). The Commission's current plan, however, does not accomplish this objective.

MHz of L-band spectrum will result in a loss of capacity for Motorola's IRIDIUM® system that will be far greater than for any of the proposed CDMA systems. Indeed, an upward 1.25 MHz shift of the CDMA boundary would deprive the IRIDIUM® system of approximately 25 percent of the L-band spectrum available to it with a concomitant reduction in system capacity. This compares to a loss of no channels for TRW's and Ellipsat's proposed CDMA systems. Constellation's claim that the IRIDIUM® system will not be affected by such a reduction in overall system capacity because of light loading during the early years of the system's lifetime is equally misguided. Under the Commission's interim plan, the reduced amount of spectrum could remain in effect until well after the end of the design life of the IRIDIUM® system satellites.^{3/}

Constellation also has not adequately demonstrated a need for an interim band sharing plan if only one CDMA system becomes operational. As Motorola pointed out in its Petition, a slight reduction in available spectrum for one CDMA system would not have any appreciable impact on that system's ability to operate in the CDMA band segment. See Motorola Petition at 13. This is because a single CDMA system could use its remaining channels more efficiently without having to share them with other CDMA systems.

^{3/} Constellation is, of course, wrong in stating that an equitable apportionment of the burden of any lost spectrum can be achieved by reducing the amount of spectrum for the IRIDIUM® system by 1.6 MHz (4 CDMA systems/5 LEO MSS systems out of 2 MHz). Since Motorola could be one of the five MSS systems operating in the band, its share of the unavailable spectrum would be only 0.4 MHz.

II. AN ADEQUATE OUT-OF-BAND EMISSIONS MASK IS ESSENTIAL FOR ENSURING COMPATIBLE OPERATIONS OF CDMA AND FDMA/TDMA SYSTEMS IN ADJACENT BANDS

Throughout these proceedings, Motorola has consistently emphasized the need to set limits on out-of-band emissions of MSS systems through the implementation of a mask using fixed frequency offsets from the band edge. This mask would provide protection from out-of-band emissions across the CDMA and FDMA/TDMA band segments, as well as offer some degree of protection to GLONASS receivers from out-of-band emissions of MSS systems operating above 1610 MHz. See Motorola Petition at 15-16.

As Motorola has explained, the necessary limits on out-of-band emissions between the CDMA and FDMA/TDMA band segments cannot rationally be based on the bandwidth of each system's channels, which range from 1.25 MHz to 7 MHz for the proposed CDMA systems. The bandwidth-dependent mask set forth in Section 25.202(f) of the Rules allows the proposed CDMA systems to operate with relatively high out-of-band power levels several megahertz removed from the band edge. This cumulative energy, in turn, could cause unacceptable interference to systems operating in adjacent bands. Motorola is not alone in recognizing the need for, and equity of, an out-of-band emissions mask. Indeed, the Above 1 GHz Negotiating Rulemaking Committee reached a consensus on the need for revisions to Section 25.202(f) of the Rules, setting forth agreed-upon language in separate reports on intra-service sharing. See, e.g., Final Report of the Majority of the Active Participants of Informal Working Group 1 to Above 1 GHz Negotiated Rulemaking Committee at ¶ 3.2.1 (Apr. 6, 1993) ("Final Report"); see Report of Motorola on Band Segmentation at ¶ 3.1

(Apr. 6, 1993). Specifically, all of the CDMA applicants recognized that the current rules should be amended, in part, because of the varying bandwidths and modulation types of the proposed systems. They also agreed that:

A limitation on the out-of-band segment emissions needs to be established to minimize the intersystem interference between systems operating in different segments of the spectrum in a band segmentation approach. . . . Currently a 45 dB isolation is proposed for good protection between an FDMA/TDMA system and a CDMA system or systems that are operating at or near capacity. This assumes representative design parameters for the systems.

Final Report at ¶ 3.2.3.

An out-of-band emissions mask is needed to protect both uplink and downlink transmissions in the 1.6 GHz band. Thus, it is incorrect to state, as several of the commenters have, that Motorola is seeking this mask solely to protect a secondary service. See TRW Consolidated Opposition and Comments at 14-15; LQP Consolidated Opposition and Comments at 17. To the contrary, the proposed mask would protect the transmissions of all of the proposed MSS systems from unwarranted interference by MSS systems operating in adjacent band segments. It also would help protect GLONASS downlink transmissions, to the extent that such protection is warranted.

III. THERE IS BROAD SUPPORT FOR THE COMMISSION TO CLARIFY AND/OR RECONSIDER ITS SATELLITE SYSTEM REPLACEMENT RULES

New Section 25.120(e) of the Rules, entitled "Renewal of Licenses," prescribes a limited window shortly before the expiration of the license term for the filing of applications for a "space station system replacement authorization." While this rule does not specifically refer to "next-generation systems," the Report and Order states that "applications for the next

generation Big LEO systems must be filed no earlier than three months prior to and no later than one month after the end of the seventh year of the existing license." Report and Order, at ¶ 186.

Motorola, LQP and Constellation have requested that the Commission clarify the meaning of this rule to ensure that all next-generation MSS systems are not encompassed within the restricted filing window for renewal applications. See Motorola Petition at 18-19; LQP Petition at 19-22; Constellation Petition at 4-9. Since the need to implement second-generation systems is likely to arise within only a few years after the first-generation MSS systems begin service, Motorola believes that, unless clarified, the current rule could inhibit implementation of systems that incorporate design advances and additional spectrum assignments to meet forecasted demand requirements. Such an interpretation of the rules clearly is not in the public interest.

TRW has identified an interpretation of the new satellite system replacement rules which would allow for the flexible implementation of second-generation systems. See TRW Consolidated Opposition and Comments at 17-19. TRW argues that a clarification of the satellite replacement rules is not necessary since the "concept of a 'second generation' system is distinct from renewal, as any new application or application for a major change in authorization must necessarily trigger a new processing round with the acceptance of other applications." Id. at 19. Although Motorola can generally support TRW's interpretation of the rules, Motorola still believes that a clarification of these

satellite system replacement rules is warranted to avoid any confusion in the future.

IV. EXCLUSIVE ARRANGEMENTS FOR MSS SERVICE WITH FOREIGN ENTITIES SHOULD BE EXPLICITLY PROHIBITED BY THE COMMISSION

Motorola, Constellation and TRW have identified the potential for anti-competitive conduct associated with allowing global MSS system proponents to enter into exclusive service arrangements with foreign administrations.^{4/} The Commission has long recognized the anti-competitive nature of exclusive licensing arrangements between its licensees and foreign entities, and has repeatedly conditioned U.S. licenses in the area of international telecommunications on a prohibition of exclusive licensing agreements. See Motorola Petition at 16-18.

AMSC Subsidiary Corporation ("AMSC") and LQP argue that such a prohibition would effectively implement a global band segmentation licensing plan, which the Commission expressly rejected in its Report and Order. See LQP Consolidated Opposition and Comments at 3; AMSC Consolidated Comments and Opposition at 8-9 (Dec. 20, 1994). For example, LQP argues that the rule proposed by Motorola and TRW is too broad because "a U.S. MSS licensee could be prohibited from accepting an operating license from a foreign Administration simply because that Administration adopted a spectrum allocation plan for the 1.6/2.4 GHz bands which was not consistent with the Commission's band segmentation plan in providing access for up to four CDMA systems

^{4/} See Motorola Petition at 16-18; Constellation Opposition and Comments at 14; TRW Petition at 21-23. LQP also agrees that "monopolistic agreements with foreign countries should be discouraged . . ." and "does not object to a license condition prohibiting contracts or other arrangements that expressly preclude authorizations for more than one U.S. MSS licensee to provide MSS to a particular country." LQP Consolidated Opposition and Comments at 5.

and one TDMA system." See LQP Consolidated Opposition and Comments at 6.

These commenters misinterpret Motorola's request.^{5/} Motorola agrees with the Commission's decision not to impose a global band sharing plan. Indeed, Motorola fully expects that the band plan in other countries will be different from the U.S. band plan because of, among other reasons, the unique service needs of each licensee in other parts of the world. Motorola simply requests that a condition be placed on each U.S. MSS license which bans arrangements between the licensee and an Administration that would exclude, explicitly or implicitly, other U.S. competitors from providing service in a foreign country. This ban is no more restrictive than the conditions the Commission has repeatedly imposed on other licensees to promote fair competition for international services.

V. AMSC SHOULD BE BARRED FROM FILING A NON-GEOSTATIONARY SATELLITE SYSTEM APPLICATION

Motorola, TRW, LQP and Constellation all request that the Commission reconsider its decision to allow AMSC to file a conforming Big LEO MSS system application. Predictably, AMSC opposes these reconsideration requests. None of AMSC's arguments, however, has any merit.

In its Petition, Motorola pointed out that the Commission failed to address the numerous competitive considerations which warranted the dismissal of AMSC's application, including AMSC's

^{5/} Motorola does not agree, however, with TRW's request to mandate "equal terms" for all foreign access arrangements. Such a requirement could be interpreted as imposing the U.S. band plan on foreign Administrations. A condition prohibiting exclusive arrangements would merely preclude any U.S. MSS licensee from seeking or accepting an exclusive authorization in any particular country without imposing any spectrum requirements or band plan.

significant head start in the MSS marketplace, and the fact that AMSC already has access, on an exclusive basis, to a considerable amount of domestic MSS spectrum. Motorola further noted that AMSC's application, as amended, proposed a Big LEO system which is inconsistent with its stated intention of entering this proceeding, i.e., to obtain more spectrum for its geostationary system. See Motorola Petition at 22-23.

AMSC cannot cite to any discussion in the Report and Order of Motorola's competitive arguments, but instead reargues many of its positions. For example, AMSC claims that its amended application will promote, rather than detract from, competition in the MSS marketplace. In fact, AMSC's potential ability to gain access to more spectrum in the 1.6/2.4 GHz bands could seriously impede competition to its licensed MSS geostationary system by cluttering up an already crowded field of applicants for a limited amount of spectrum. AMSC also cannot refute the fact that it intends to begin providing service in the U.S. well ahead of any Big LEO system proponents.

VI. CONCLUSION

For the foregoing reasons, Motorola urges the Commission to grant its Petition for Clarification and Partial Reconsideration.

Respectfully submitted,

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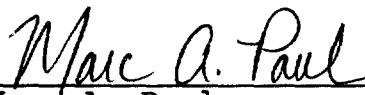
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